

## LETTER TO THE EDITOR

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### P53 immunostaining in skin biopsies may assist the diagnosis of actinic keratosis

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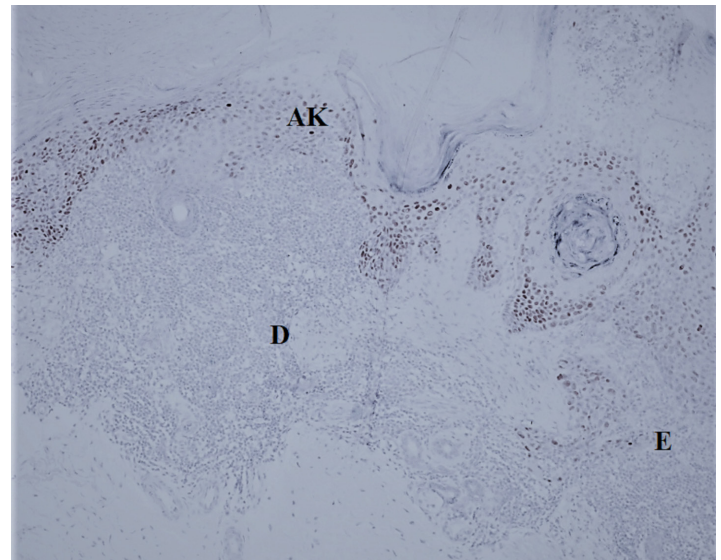
#### Dear Editor

Actinic keratosis (AK) is a common intraepithelial neoplastic lesion occurring on sun-damaged skin which is accepted as a precursor of invasive carcinomas [1]. The differential diagnosis of AK includes many benign lesions such as solar lentigo, seborrheic keratosis, discoid lupus erythematosus, verrucous nevi, and warty dyskeratoma [1, 2]. We previously reported the demographic results of biopsied AK lesions and their histopathologic groups as a conference paper [3]. In the assessment of biopsied AK lesions immunohistochemistry has been suggested to reduce the subjectivity in histopathologic evaluations [2, 4, 5].

Previously reported AK skin biopsies diagnosed at Pathology Laboratory, Turgut Özal Medical Centre, İnönü University were stained by p53 antibody applicable to paraffin sections utilizing labeled strep-avidin biotin (LSAB) method. Eighteen of 27 AK lesions (66.3%) from 23 patients showed a prominent p53 activity in the lesional stratified squamous epithelium but not in the normal-appearing adjacent epidermis (Figure 1). The staining intensity was especially prominent with Bowenoid, hyperplastic, and proliferating AK sub-groups (Figure 2 and 3). Since the number of cases was small statistical analysis of these results was not made.

p53 is a DNA-binding phosphoprotein coded by a tumor suppressor gene located on the short arm of chromosome 17 and mutations of p53 are common in many cancers resulting in the accumulation of p53 protein detectable immunohistochemically in the nuclei of affected cells [2, 4, 5]. In our series of AK cases p53 staining emerged as a prominent objective histopathologic feature

compared to adjacent normal epithelium. Similar results with p53 immunostain combined with p27, p63, and Ki-67 proliferation index have also been reported. However, the most prominent immunohistochemically persistent finding has been p53 in these observations so that it may be suggested as an adjunct to daily biopsies without increasing the laboratory workload by additional markers [2, 4-6].

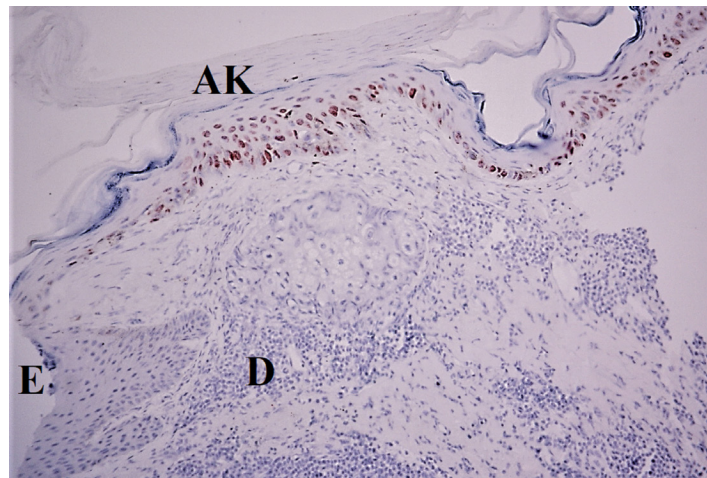


**Figure 1.** Low power microscopic view showing epidermal positive reaction for p53 antibody in actinic keratosis (AK) near normal epidermis (E), lymphocytic infiltration in the dermis (D), (DABx200)

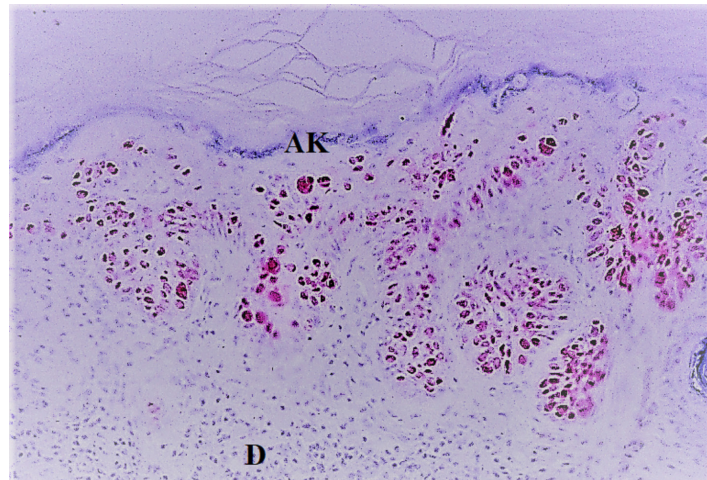
p53 overexpression shown by immunostaining applied to paraffin sections of skin biopsies may be a useful practical adjunct in increasing objective assessment of AK cases [2, 4, 6] and also highlighting invasive malignancies [5, 6]. Though combination with other markers such as the Ki-67 proliferation index may yield more precise results, we suggest that p53 positivity would serve as the first-line assessment of suspected skin lesions of AK in the

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differential diagnosis of routine daily biopsies without increasing the workload of the laboratory.



**Figure 2.** Full-thickness positive reaction to p53 antibody in actinic keratosis (AK) area with dermal lymphocyte (D) accumulation, (DABx400)



**Figure 3.** Bowenoid type actinic keratosis with prominent p53 staining pattern in enlarged nuclei of the epidermis, (DABx400)

#### Conflict of interests

*The authors declare that they have no competing interests.*

#### Financial Disclosure

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